STATE OF MAINE
DEPARTMENT OF CONSERVATION
MAINE FOREST SERVICE
Insect And Disease Laboratory
50 Hospital Street
AUGUSTA, MAINE
04330

JOHN ELIAS BALDACCI
GOVERNOR

Patrick K. McGowan
COMMISSIONER

IDM Home Page: http://www.maine.gov/doc/mfs/idmhome.htm

Forest & Shade Tree - Insect & Disease Conditions for Maine September 26, 2008

The condition of the forests across Maine appears to be in overall very good health. We've escaped another year of experiencing any significant defoliation by insects, and soil moisture conditions have been more than adequate! With the exception of a new extension of the range of hemlock woolly adelgid in southern Maine, the other primary exotic threats (emerald ash borer, Asian long-horned beetle, and sudden oak death) have not yet arrived. However, we must all stay aware and ready for these and other new threats. Native insect and disease populations have also been at generally low levels, with the abundant rain helping to keep the defoliators in check, and trees vigorous in their defense against many stress-initiated pathogens.

This is the final issue of the *Conditions Report* for the season. We hope you have found these reports useful, and we appreciate your continued vigilance in keeping the trees and forests of Maine healthy. Enjoy the fall, and have a safe and comfortable winter.

Monitoring for Detection of Emerald Ash Borer

The Emerald Ash Borer (EAB) is a recently introduced exotic pest which kills ash and is spreading rapidly throughout eastern North America. This summer we used two methods to monitor for this pest: we placed large purple sticky traps in ash trees and initiated a biosurveillance project.

A native ground dwelling wasp (*Cerceris fumipennis* – it has no common name) which hunts metallic wood-borers (beetles related to EAB), has been found to be very efficient in hunting EAB when it is present in an area. This non-stinging wasp brings home paralyzed beetles to its young. Because we have difficulty detecting the presence of EAB, we hope to let the wasp do the work for us. With help from some volunteers, we located several *Cerceris* colonies, and observed wasps bringing in prey to see if EAB was present. No EAB was detected in Maine using either biosurveillance or purple traps.

All *Cerceris* colonies located this year were in central and southwestern Maine: south of Rangeley and west of Bangor. Next year we hope to find more colonies in a wider area, although we are unlikely to find them in northern Maine. We also hope to find volunteers to help monitor colonies for a few hours a month next summer. This can easily be done by non-entomologists. For further information on biosurveillance, visit our Website at www.maineforestservice.org/idmhome.htm and click on 'emerald ash borer hunter' in the left sidebar. If you are interested in helping with the biosurveillance project please contact Colleen Teerling (phone: 207 287-3096, email: colleen.teerling@maine.gov).

MAINE FOREST SERVICE
R. Alec Giffen, DIRECTOR

PHONE: (207) 287-2791 OR 1-800-367-0223
FAX: (207) 287-8422
TTY: (207) 287-2213
www.maineforestservice.org

Insects

Larch sawfly (*Pristiphora erichsonii*) – A few stands scattered around central Maine have been defoliated by larch sawfly this year. There has been relatively little larch sawfly in the past few years so it will bear watching to see if the population expands.

Oystershell Scale (*Lepidosaphes ulmi*) – Beech stands in the Greenville area have significant numbers of oystershell scale. Some trees have high enough numbers so that there is branch dieback. This insect has been in North America for over 100 years and periodically occurs in high enough numbers to cause problems. Beech trees are already stressed from beech bark disease and this oystershell scale may be taking advantage of the weakened state of the trees.

Western Conifer Seed Bugs (*Leptoglossus occidentalis*) – White pines have produced an abundant seed crop this year. That means the numbers of western conifer seed bugs is likely to be high as well. These are ¾-inch brown bugs that walk or fly around in your house come fall and winter. They come inside to find a warm place to spend the winter. They do not bite, eat anything, lay eggs or do anything destructive, but they can be annoying. They also smell when you squish them. Gently pick them up and show them to the door if they do come in. People living near pines or other conifer will be most likely to have these uninvited "guests".

Diseases and Injuries

Red Pine Root Rot *(Heterobasidion annosum)* - The pathogen *Heterobasidion annosum* (= *Fomes annosus*) is a common and widespread problem primarily in red pine plantations. The fungus is an aggressive root rot pathogen, and often becomes established in red pine plantations after early stand thinning has taken place. The fungus infects the freshly-cut stumps and, over time can travel through root grafts to neighboring trees. The root disease causes extensive root decay and mortality of affected trees.

A recent examination of an infected red pine plantation in Freeman Township has underscored an additional way in which the disease can affect forest stands. The examined stand has abundant white pine in the understory. While *H. annosum* is resulting in considerable mortality of the overstory red pine, large numbers of young, understory white pine (now averaging six to eight feet in height), are also being killed. While most red pine plantation management plans do not focus on regeneration, this case clearly shows the devastating effect this disease can have not only on stands, but on the site itself.

Options for control are limited, and will likely require a stand conversion to non-susceptible species, probably to hardwoods. This will result in a direct loss of time, and probably a loss in value and productivity, when compared with that which could have been realized had the white pine remained healthy. Loss of site productivity as a result of forest diseases almost always has a more significant negative consequence than simply the loss of the current stand value.

Ash Trees and Ice Storms – In recognition of the 10th anniversary of its occurrence, the ice storm of 1998 was revisited by various media over the past year. While crown damage to

affected trees has largely been masked now by healthy recovery in most instances, more significant damage is now becoming evident in some particular cases.

Examination of a site in southwestern Maine has revealed that ash trees which had moderate top damage were now declining and dying from infection by *Armillaria* root rot. Evidence indicates that the trees were rapidly infected with *Armillaria* ten years ago, during the growing season immediately following the ice storm. The trees during the growing season of 1998 had the least photosynthetic capacity as a result of the ice storm. Damaged ash crowns were found to sprout and rebuild at a remarkable rate. Many ash crowns appeared to be in full health just a few years following the storm, even though nearly all the branches had been removed in 1998.

The damage and the re-growth were not without long-term consequences, however. Rebuilding the crowns surely depleted the energy (starch) reserves in the roots, and this led to rapid colonization by *Armillaria*. Now, ten years after the damage, the root and butt decay is extensive enough to result in tree decline and mortality.

Examination and continuing assessment of stands moderately and severely damaged by the ice storm is recommended, as the long-term effects are just now becoming evident. Timely removals using the most conservative and careful partial harvesting methods can allow for the recovery of optimum volume and value from the affected stands.

Oak Wilt Disease Discovered in New York – Late this summer, the pathogen that causes oak wilt (*Ceratocystis fagacearum*) was discovered causing oak mortality in Scotia, New York, a small town just north of Schenectady. This is the first report of this disease occurring in New York. The nearest previously known occurrence of oak wilt is in Erie, Pennsylvania, some 350 miles to the West.

This disease, first identified from Wisconsin in 1944, caused considerable mortality to oaks (primarily species in the red oak group) in the upper mid-western states and in Texas. During the 1950's and 1960's, the disease was also very prevalent in Pennsylvania and in several states to the south. Although Maine and other northeastern states have watched for this disease for over 60 years, it has never been found until this New York discovery.

While oak wilt is still not yet known to occur in the New England states, the recent range extension of this disease is of great concern. The situation provides further reason to be vigilant and to heed the precautions that the Maine Forest Service and other conservation groups disseminate regarding restricting the movement of firewood and other wood products from known infested areas. For more information on oak wilt, visit the Website: http://www.na.fs.fed.us/SPFO/pubs/fidls/oakwilt/oakwilt.htm

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Forest Health and Monitoring Division